UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB127NM

Site Name: Savannah

Precipitation or Climate Zone: 10 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site normally occurs on gently to moderately sloping topography. Typically, areas of steeper slopes connect from above, and the savannah site becomes a gradation down to more level upland plains. Slopes average about 7 percent but range occasionally to just above 10 percent. Elevations range from approximately 6,000 to 7,200 feet above sea level.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	6,000	7,200
Slope (percent)	7	10
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 13 inches to just over 16 inches. Fluctuations ranging from about 8 inches to 28 inches are common. The overall climate is characterized by cold, dry winters in which winter moisture is less than summer moisture. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than they are for those of spring.

The average frost-free season is about 120 days and extends from approximately mid May too early or mid September. Average annual air temperatures are 50 degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on a given ecological site, which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm/cool-season dominants are present.

Associated mountainous areas may tend to affect precipitation positively on this site.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	102	148
Freeze-free period (days):	119	174
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

				Period		
Station ID	290640	Location	Augustine 2E, NM	From: 05/01/26	To:	07/3100
Station ID	296812	Location	Pietown 19NE, NM	From: 09/01/88	To:	07/31/00
Station ID	297180	Location	Quemado, NM	From: 08/01/15	To:	07/31/00

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils in this site are moderately deep to deep and well drained. Typically, the surface layer is sandy loam, fine sandy loam, or loamy fine sand over somewhat finer textured subsoils. Occasionally, the surface may be loam. Permeability is moderate to rapid, and the water-holding capacity is moderate.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Sandy loam
2. Fine sandy loam
3. Loamy fine sand
4. Loam
5. Gravelly sandy loam
6. Sandy clay loam
7. Gravelly loam
8. Loamy sand
9. Very cobbly sandy loam

Surface Texture Modifier:

1. Gravel
2. Cobble
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): 15 to 35
Surface Fragments >3" (% Cover): 15 to 35

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Very slow	Moderately rapid
Depth (inches):	4	>72
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	0.00	5.00
Soil Reaction (1:1 Water):	6.1	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is characterized by scattered large tree-type pinyon and/or juniper with open grass stands in between. Understory grasses are dominated by blue grama, western wheatgrass, Indian ricegrass, and sand dropseed. Pinyon ricegrass and pine dropseed may also be found, usually beneath the trees and at the higher elevation ranges of the site. Winterfat and some forbs may occur in significant amounts. Broom snakeweed is most common in certain good rainfall years and when the understory plant community deteriorates from its potential. Reproduction of pinyon pine and juniper is normally very slow and, historically, may have been controlled by natural fire. Tree canopy of the natural potential plant community averages approximately 25 percent. In exceptional cases, a few more or less even-aged ponderosa pines may occur on this site naturally. Reproduction of this species is ordinarily even less evident than that of pinyon or juniper, and no more than 1 or 2 percent of the understory is likely to be made up of pine seedlings, even in the absence of livestock grazing.

Canopy Cover:	
Trees	15 – 30 %
Shrubs and half shrubs	15 – 30 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	18
Bare ground	65
Surface gravel	2
Surface cobble and stone	0
Litter (percent)	15
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	195	382	569
Forb	27	53	70
Tree/Shrub/Vine	78	153	228
Lichen			
Moss			
Microbiotic Crusts			
Total	300	588	875

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	88 – 118	88 – 118
2	PASM	Western Wheatgrass	59 – 88	59 – 88
3	ACHY	Indian Ricegrass	29 – 59	29 – 59
4	SPCR	Sand Dropseed	29 – 59	29 – 59
5	POFE PIFI	Muttongrass Pinyon Ricegrass	9 – 18	9 – 18
6	BLTR HECO26 ELEL5 KOMA NAVI4 HENE2	Pine Dropseed Needleandthread Bottlebrush Squirreltail Prairie Junegrass Green Needlegrass New Mexico Feathergrass	29 – 59	29 – 59
7	MUTO2 ARIST	Ring Muhly Threeawn spp.	18 – 29	18 – 29
8	MUAR2	Sand Muhly	9 – 18	9 – 18
9	MUWR LYPH	Spike Muhly Wolftail	18 – 29	18 – 29
10	PLJA	Galleta	18 – 29	18 - 29

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	2FP	Other Perennial Forbs	18 – 47	18 – 47
12	2FA	Other Annual Forbs	9 – 29	9 - 29

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	KRLA2	Winterfat	9 – 18	9 – 18
14	ARBI3	Bigelow Sagebrush	9 – 18	9 – 18
15	GUSA2	Broom Snakeweed	9 – 18	9 – 18
16	ERNAN5 TECA2 ARFI2	Rubber Rabbitbrush Spineless Horsebrush Sand Sagebrush	18 – 29	18 – 29
17	PIED JUNIP	Pinyon Pine Juniper spp.	59 – 118	59 – 118
18	ATCA2	Fourwing Saltbush	18 – 29	18 - 29

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID **0317NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Large tree-type pinyon and/or juniper w/open grass stands in between.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitat that supports a resident animal community characterized by kit fox, badger, desert cottontail, spotted ground squirrel, Ord's kangaroo rat, white-throated woodrat, Botta's pocket gopher, plains pocket mouse, Northern grasshopper mouse, ferruginous hawk, mourning dove, meadowlark, plains spadefoot toad, Eastern fence lizard, plateau whiptail, short-horned lizard, and prairie rattlesnake. Pronghorn antelope use the site peripherally but seldom reside on it. Common raven and prairie falcon hunt over the site, and Swainson's hawk nest here. Woodland wildlife species such as mule deer, gray fox, rock squirrel, harlequin quail, pinyon jay, scrub jay, chipping sparrow, and Cassin's kingbird also use the site, and in instances where pinyon and juniper have increased substantially, may become site characteristic. Elk may also use the site.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Abrazo	D
Amenson	D
Apache	D
Ascalon	?
Celacy	C
Celavar	C
Datil	B
Diatee	B
Dioxice	B
Flugle	B
Guy	B
Hiarc	C
Joachem	D
Loarc	B
Nogal	C
Parquat	B
Ralphston	B
Tafoya	C
Todest	B
Vibo	?

Recreational Uses:

This site offers fair to good potential for hiking, horseback riding, nature observation, photography, camping and picnicking. Hunting for mule deer or mourning dove can be fair, while pronghorn antelope hunting is poor.

Wood Products:

At its potential, the site has a limited, hard to sustain productive capacity for firewood and fence posts. Under deteriorated ecological condition, pinyon and juniper trees may increase dramatically, thus increasing wood production. Harvesting in either case should be selective, and it is considered unlikely that clear cutting should ever be recommended.

Other Products:

Grazing:

This site is suited to grazing by most kinds and classes of livestock in all seasons of the year, but is poorly suited to continuous yearlong grazing if potential natural understory vegetation is to be maintained. Under such use, cool-season grasses such as western wheatgrass and Indian ricegrass characteristically decline or even disappear. If use is heavy and prolonged, the more palatable warm-season grasses will also decline, pinyon and juniper will increase, and the site becomes characterized by low-vigor, sod-like blue grama, ring muhly, threeawn spp., and overall reduced herbaceous plant density. Understory production may eventually be reduced to one-third or less of the sites original potential. Pinyon and juniper may increase to the point that the site eventually takes on the appearance of a woodland.

Where intensive-grazing management is used, livestock selectivity against the more palatable and productive plants may be reduced, deferment instituted, and natural ecological conditions more nearly maintained at higher levels.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	4.0 – 5.0
75 – 51	4.7 – 7.5
50 – 26	7.0 – 12.5
25 – 0	12.5+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P
Green Needlegrass	Nassella viridula	EP	D	D	D	D	D	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Livestock
Animal Type: Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	D	D	P	P	P	P	P	P	P	P	P	D
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	D	D	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P
Green Needlegrass	Nassella viridula	EP	D	D	D	D	D	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

Animal Kind: Wildlife

Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Most Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bigelow Sagebrush	Artemisia bigelovii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Juniper	Juniperus spp.	F/S	P	P	U	U	U	U	U	U	U	U	P	P
Pinyon Ricegrass	Piptochaetium fimbriatum	EP	U	U	P	P	P	U	U	U	D	D	D	U
Pine Dropseed	Blepharoneuron tricholepis	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Catron, Socorro**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Rio Arriba, Sandoval, McKinley, Cibola, Catron, Socorro.

Characteristic Soils Are:	
Ascalon	Vibo
Other Soils included are:	
Abrazo, Amenson, Apache, Celacy, Celavar	Datil, Diatee, Dioxice, Flugle, Guy, Hiarc
Joachem, Loarc, Nogal, Parquat, Ralphston	Tafoya, Todest

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/02/79	Don Sylvester	07/02/79

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	07/08/02	George Chavez	12/16/02